

BIRD TO WATCH

In search of the elusive Jerdon's Courser: what future for one of the most endangered birds on earth?

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History

In 1848 the well known surgeon-naturalist with the British East India Company T. C. Jerdon discovered the Jerdon's Courser *Rhinoptilus bitorquatus* in the Pennar river valley in what is today Andhra Pradesh, India. He described it as 'a remarkable Plover which frequents thin forest jungle, and is found in small parties, not very noisy, but occasionally uttering a plaintive cry. I believe it to be a permanent resident. It is an almost unique instance of a species of Plover having such an extremely limited geographical distribution'.

The species has always been rare and elusive, with only a few sporadic sightings, mainly in the same area, up to 1900. It was not found during surveys in similar valleys in the 1930s or the 1970s, leading several experts to declare the species all but extinct by the early 1980s. However, given the extent of apparently suitable habitat there was always a chance it could survive in an unexplored corner.

In 1985 the Bombay Natural History Society (BNHS), as part of the Endangered Species Project funded by the United States Fish and Wildlife Service (USFWS), surveyed the Pennar valley area again and Bharat Bhushan approached forestry officials, local communities and tribal bird trappers, showing them posters and a description of the bird. A local trapper, Aitanna from Reddipalli village in the Lankamalai area, caught a bird in January 1986 and contacted Bhushan, who confirmed that the bird had indeed been rediscovered, ending decades of speculation about the status of the bird once feared extinct. The Andhra Pradesh Forest Department (APFD) immediately declared a new wildlife sanctuary at Sri Lankamalleswara and in 1997, based on further possible sightings, the Sri Penusila Narasimha Wildlife Sanctuary was declared. The bird was also given protection through legislation and it has since been found at six other locations in the Lankamalai, Velikonda and Palakonda hills in the Eastern Ghats of Andhra Pradesh.

Identification, distribution, ecology and habitat

One of the nine true coursers, Jerdon's Courser is the only representative of the genus *Rhinoptilus*

found in Asia; like two African members of the genus it is nocturnal and hides in the shade of bush and scrub during the day. It is an unmistakable compact courser (27 cm), with large eyes, a short black-tipped yellow bill and yellow legs. Plumage characteristics include a brown breast with two narrow white bands edged with black, broad white lores and supercilium over dark cheek patches and orange-chestnut throat patch. In flight, it shows a mostly black tail and a white patch near the tips of black primaries (Plate 1) (Maclean 1996, Rasmussen & Anderton 2005).

At the time of its rediscovery almost nothing was known about the bird. In 2000 BNHS, the Royal Society for Protection of Birds (RSPB), and the UK Universities of Cambridge and Reading supported by the APFD started a research programme. With funding from the UK Darwin Initiative, considerable progress has been made in developing survey techniques to detect the presence of the coursers, describing their habitat and identifying likely new sites in the area.

Prior to 2000, most records were sightings at night and preliminary night surveys yielded two sightings. Searches were made only in areas where

Plate 1. Jerdon's Courser *Rhinoptilus bitorquatus*, Sri Lankamalleswara Sanctuary, Andhra Pradesh, India, December 1999.



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there had been previous sightings. The efficiency of night searches is unknown and likely to vary with habitat characteristics, which also makes the interpretation of negative results problematic. Clearly this technique is unsuitable for large-scale surveys and a new method was developed using tracking strips (about 5 m long and 0.3 m wide) on which the birds leave their distinctive footprints (Plate 2). A camera trap was set up at one end of the strip, emitting an infra-red beam with a receiver at the other; the camera being triggered when the beam was broken (Plate 3).

In 2002 the first recording of the call was made, which called into question earlier published descriptions, now thought to be the result of confusion with the Eurasian Thick-knee *Burhinus oedicnemus*. The male appears to be vocal for a few minutes around dawn and dusk during the presumed non-breeding season (Rasmussen & Anderton 2005). Tape response surveys have resulted in several contacts being made with the bird, but sound boxes of the call distributed to local community leaders and government officials did not stimulate much feedback.

Surveys using these various methods led to the detection of the species in three new locations, all within 14 km of the original rediscovery site (Jeganathan 2006). The population at known sites was at least eight individuals, leading to an estimate that there were less than 100 birds in the area, although unsurveyed habitat could support 'hundreds' (R. Green *in litt.* 2002). Habitat surveys revealed it to inhabit sparse, thorny (dominated by *Acacia*, *Zizyphus* and *Carissa*) and non-thorny (dominated by *Cassia*, *Hardwickia* and *Anogeissus*)

Plate 2. Jerdon's Courser footprint, 2001.



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Plate 3. Jerdon's Courser caught by camera trap, 2001.

Plate 4. Jerdon's Courser habitat. View of Lankamalai from watch tower, June 2009.



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scrub-forest and bushes, interspersed with patches of bare ground, in gently undulating, rocky foothills (Plate 4). Studies using tracking strips revealed the species has a strong preference for certain densities of scrub-jungle habitat, favouring areas where the density of large bushes is 300–700/ha and small bushes occur at less than 1,000/ha (Jeganathan *et al.* 2004). The only thing known about its diet, through faecal analysis, is that it is quite partial to termites.

Threats and conservation

This scrub-jungle habitat is becoming increasingly scarce and fragmented through encroachment, exacerbated by the relocation of 57 villages to areas close to the sanctuary following the construction of the Somasilla dam. The dependence of these additional settlers on the sanctuary for resources such as fuel, fodder collection and livestock grazing is a serious threat to the habitat and causes further disturbance to the birds. Conversely it is thought that sustainable, controlled grazing is important to maintain the habitat structure required by the species. Other threats are quarrying and land clearance for agriculture nearby, including areas with recent records of the species (Jeganathan 2006, Senapathi *et al.* 2007).

The construction of the Telugu-Ganga agricultural irrigation canal had been mooted as early as 1986, but the authorities diverted the line of the canal around the sanctuary. However, in October 2005 unauthorised work on the canal started again near the sanctuary boundary. Intervention by BNHS succeeded in halting the work and in 2008 the Indian Supreme Court approved a new route avoiding the remaining suitable habitat and an additional 1,200 ha of land between the wildlife sanctuary and the new canal has been transferred to the Forest Department for inclusion in the sanctuary to be managed for Jerdon's Courser. Nonetheless, availability of water from the canal increases the pressure from villagers to convert land to agricultural use.

Poor management of the sanctuaries has also been a problem; although created to protect the courser, the management of these areas has not always benefited the bird. Activities such as the construction of check dams, trenches and planting of non-native species (eucalyptus) were initially undertaken by the authorities but these have now largely stopped thanks to various training and awareness programmes leading to better understanding of the habitat requirements of the species.

Future activities

Although the initial survey methods of tracking strips, night searching and tape playback yielded good results, they are very labour intensive. Advances in camera trap technology have resulted in the development of single units which are easier to set up and conceal from human interference and may operate uninterrupted for several weeks. Since 2010, up to 60 camera traps have been deployed but to date, and rather worryingly, no birds have been detected. However, they have enabled coverage of a much larger area of the sanctuary and this method will continue for the foreseeable future. Other studies to understand the anthropological pressures on the habitat such as livestock grazing and fuel wood consumption have also been initiated.

Legal protection, advocacy and awareness

Jerdon's Courser is endemic to Andhra Pradesh and is listed as Critically Endangered (BirdLife 2012). It is also considered a priority species under the Indian government National Wildlife Action Plan

(2002–2016) and a Species Recovery Plan (SRP) has been adopted by the APFD and funding from Central Government has recently been approved. As is often the case, the conservation effort to save Jerdon's Courser can only succeed with the support of the local communities to help protect the fragile habitat and secure a long term future for the species. The SRP recognises this and outlines a programme of awareness and advocacy with local stakeholders which should bring better protection in the future.

Considerable progress has been made on saving one of the world's rarest birds and its future is brighter than it was a decade ago, but there is still a lot to be done before we secure the long-term survival of this species once feared extinct. To date, we are grateful for funding to support research and awareness activities by the RSPB, the BirdLife Preventing Extinctions Programme, through the British Birdwatching Fair, and the Mohammed Bin Zayed Species Conservation Fund.

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